

Patent Claims:

1 – 8 (canceled)

9. (new) A method for detecting misfires in an internal combustion engine, comprising:

operating the internal combustion engine;

continually determining a parameter that depends on an acceleration of the internal combustion engine by a monitoring and analysis method; and

detecting the misfire based on a comparison of the parameter with a threshold value,

wherein a variance in the parameter is determined and used to adjust the threshold value to take account of changes in the even running of the internal combustion engine.

10. (new) The method as claimed in claim 9, wherein the threshold value is increased if there is a reduction in the even running of the engine and reduced if there is an increase in the even running of the engine.

11. (new) The method as claimed in claim 9, wherein the adjustment of the threshold value is constantly repeated cyclically during operation of the internal combustion engine.

12. (new) The method as claimed in claim 9, wherein the method is used during the calibration of the internal combustion engine.

13. (new) The method as claimed in claim 9, wherein a predefined time interval or a predefined number of power strokes is used in each case as the variation range for the variance of the parameter.

14. (new) The method as claimed in claim 9, wherein the method is performed on an engine cylinder-specific basis.

15. (new) The method as claimed in claim 9, wherein an even running regulation method is used to correct the combustion in the cylinders of the internal combustion engine to increase the even running of the engine and the variance of the parameter is used to check the result of the even running regulation.

16. (new) The method as claimed in claim 15, wherein if after the even running regulation has been performed and the adjustment of the threshold value has been completed, misfires continue to occur in a cylinder, the combustion of the cylinder is detected as defective.